INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT NO. 3702

CHICAGO, NORTH SHORE AND MILWAUKEE RAILWAY

IN RE ACCIDENT

AT WAUKEGAN, ILL., ON

AUGUST 9, 1956

SUMMARY

Date:	August 9, 1956	
Railroad:	Chicago, North Shore and Milwaukee	
Location:	Waukegan, Ill.	
Kind of accident:	Side collision	
Trains involved:	Freight	: Passenger
Train numbers:	Extra 456 North	: 433
Locomotive numbers:	Electric locomotive 456	:
Consists:	7 cars, caboose, 1 car	: 3 electrically propelled passenger units
Estimated speeds:	Standing	: 20 m. p. h.
Operation:	Timetable, train orders, and automatic block-signal system	
Tracks:	Double; tangent; level	
Weather:	Clear	
Time:	10:04 p. m.	
Casualties:	46 injured	
Cause:	Failure to provide adequate protection for the preceding train and failure to operate the following train in accordance with signal indications.	

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3702

IN THE MATTER OF MAKING ACCIDENT INVESTIGATION REPORTS UNDER THE ACCIDENT REPORTS ACT OF MAY 6, 1910.

CHICAGO, NORTH SHORE AND MILWAUKEE RAILWAY

September 28, 1956

Accident at Waukegan, Ill., on August 9, 1956, caused by failure to provide adequate protection for the preceding train and failure to operate the following train in accordance with signal indications.

REPORT OF THE COMMISSION[1]

CLARKE, Commissioner:

On August 9, 1956, there was a side collision between a freight train and a passenger train on the Chicago, North Shore and Milwaukee Railway at Waukegan, Ill., which resulted in the injury of 44 passengers and 2 train-service employees.

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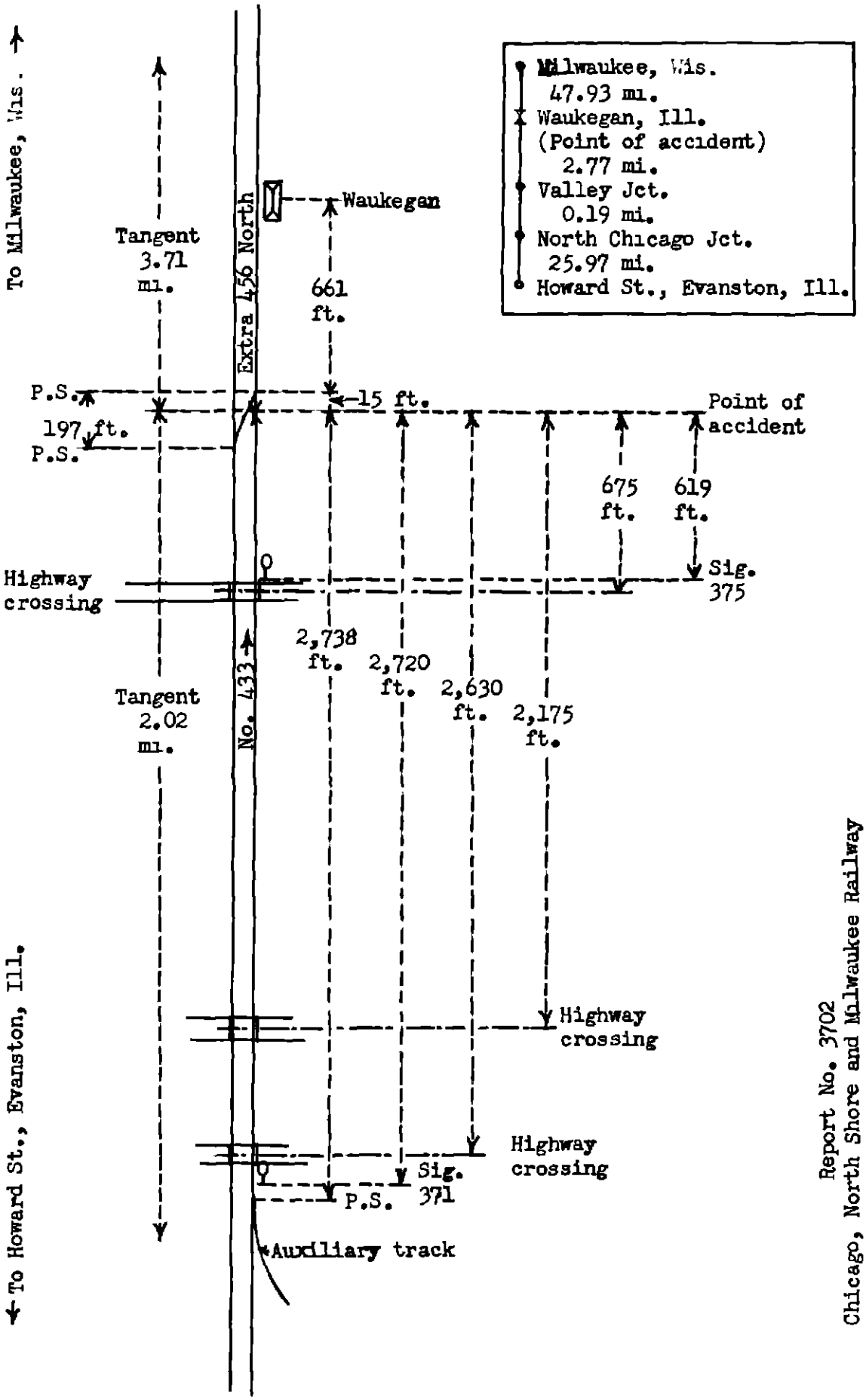
1 Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Clarke for consideration and disposition.



Report No. 3702
Chicago, North Shore and Milwaukee Railway
Waukegan, Ill.
August 9, 1956

Location of Accident and Method of Operation

This accident occurred on that part of the railroad extending between Howard Street, Evanston, Ill., and Milwaukee, Wis., 76.86 miles. In the vicinity of the point of accident this is a double-track line, over which trains moving with the current of traffic are operated by timetable, train orders, and an automatic block-signal system. This line is equipped with an overhead trolley system for the electric propulsion of trains. Within yard limits at Waukegan, 28.93 miles north of Howard Street, a trailing-point crossover 197 feet in length connects the two main tracks. The north and south switches are, respectively, 661 feet and 858 feet south of the station. The accident occurred on the north turnout of the crossover at a point 15 feet south of the point-of-switch. Rail-highway crossings at grade are located at points, respectively, 675 feet, 2,175 feet, and 2,630 feet south of the point of accident. The main tracks are tangent throughout a distance of 2.02 miles immediately south of the point of accident and 3.71 miles northward. Throughout a distance of more than 1 mile immediately south of the point of accident the grade for north-bound trains varies between 0.10 percent descending and 0.30 percent ascending, and it is practically level at that point.

Automatic signals 371 and 375, governing north-bound movements on the northward main track, are located, respectively, 2,720 feet and 619 feet south of the point of accident. These signals are of the color-light type and are continuously lighted. Each displays three aspects. The aspects applicable to this investigation and the corresponding indications and names are as follows:

Signal	Aspect	Indication	Name
371	Yellow	Proceed preparing to stop at next signal. Train exceeding medium speed must at once reduce to that speed.	Approach
375	Red	Stop, then proceed at restricted speed through block.	Stop and Proceed.

The controlling circuits are so arranged that when the block of signal 371 is unoccupied and the block of signal 375 is occupied, signal 371 indicates Proceed-preparing-to-stop-at-next-signal and signal 375 indicates Stop-then-proceed-at-restricted-speed.

Timetable special instructions read in part as follows:

7. * * *

Within yard limits the main track may be used, protecting against first class trains.

10. When a train stops under circumstances in which it might be overtaken by another train, flagman must go back immediately with flagman's signals a sufficient distance to insure full protection. * * *

At night * * * flagman will place burning red fusee in center of track 500 feet in rear of train or obstruction and then go back at least 2500 feet further.

Upon arrival at point of full protection, flagman will place one torpedo on motorman's side of track. If a following train comes within sight or hearing before flagman has reached point of full protection he will immediately place a torpedo and at night * * * will in addition display a burning fusee and will then continue toward the approaching train displaying stop signals until they are acknowledged.

* * *

12. DEFINITIONS.

SPEED. (1) Medium. A speed not exceeding one-half authorized speed, but not exceeding 30 miles per hour.

LOW (RESTRICTED) SPEED. A speed that will permit stopping short of another train or an obstruction, but not exceeding 15 miles per hour.

* * *

The maximum authorized speed for passenger trains is 79 miles per hour.

Description of Accident

Extra 456 North, a north-bound freight train, consisted of electric locomotive 456, six cars, a caboose, and one car, in the order named. This train departed from Pettibone Yard, 3.25 miles south of Waukegan, the last open office, at 9:25 p. m. and entered the northward main track at Valley Junction, 2.77 miles south of Waukegan. It stopped at an auxiliary track 3,414 feet south of the station at Waukegan

where the locomotive was detached and a car was added to the train. It then proceeded northward and stopped on the northward main track at Waukegan about 9:45 p. m. with the rear end immediately north of the north crossover-switch. About 18 minutes later, after a south-bound passenger train had passed on the southward main track, it began a reverse movement through the crossover. After it had moved southward about 15 feet the train was stopped. A few seconds later the rear end was struck by No. 433. The accident occurred 15 feet south of the point-of-switch at the north end of the crossover.

No. 433, a north-bound first-class passenger train, consisted of three electrically propelled passenger units, coupled in multiple-unit control. All units were of all-steel construction. This train departed from North Chicago Junction, the last open office, 2.96 miles south of Waukegan, at 10 p. m., 3 minutes late, passed signal 371, which indicated Proceed-preparing-to-stop-at-next-signal, passed signal 375, which indicated Stop-then-proceed-at-restricted-speed, and while moving at a speed of 20 miles per hour, as estimated by the engineer, it struck the rear end of Extra 456 North.

No equipment of Extra 456 North was derailed. The rear car was destroyed, and the caboose was slightly damaged. The front truck of the first unit of No. 433 was derailed. The front end of this unit was crushed in, and the front vestibule was demolished. The first unit was considerably damaged, and the second and third units were somewhat damaged.

The motorman and the collector of No. 433 were injured.

The weather was clear at the time of the accident, which occurred about 10:04 p. m.

Each unit of the train of No. 433 was 55 feet 3-1/4 inches in length and weighed approximately 103,500 pounds. Each was powered by four 140-horsepower traction motors. Motorman's controls were located in the vestibule at each end of each unit. Each controller was so arranged that power would not be applied to the traction motors unless the controller handle was held down against spring action. The headlights used are of the portable type with 500-watt lamps.

Discussion

No. 432, a south-bound passenger train, is due to leave Waukegan at 9:58 p. m. No. 433 is due to leave at 10:04 p. m. After Extra 456 North arrived at Waukegan the conductor remained in the vicinity of the crossover until he saw that

No. 432 would reach the station before No. 433 arrived. When he saw No. 432 approaching he instructed the flagman, who was at the rear of the train, that after No. 432 departed Extra 456 North was to cross to the southward main track to allow No. 433 to pass. He then lighted a red fusee and proceeded southward to provide protection against No. 433. He said that when he reached a point near signal 375 he could see that No. 433 was in the vicinity of signal 371. He gave stop signals with the fusee, but the signals were not acknowledged. He continued to give stop signals until No. 433 passed. He said he could see that the brakes were applied as No. 433 approached him and that the wheels were sliding as the train passed. He estimated that No. 433 passed him at a speed of about 40 miles per hour. The flagman of Extra 456 North said that after No. 432 passed he lighted a red fusee at the rear end of the rear car and gave a back-up signal. The engineer said that he started the train southward in response to this signal. He then saw the stop signals being given by the conductor and stopped the train immediately before the collision occurred.

As No. 433 was approaching the point where the accident occurred the motorman was alone in the vestibule at the front of the first unit. The conductor was in the first unit, and the ticket collector was in the third unit. The motorman estimated that the speed was about 75 miles per hour. The brakes of this train had functioned properly when used en route. The motorman said that as the train approached Waukegan he was bothered by the brightly lighted headlight of No. 432. He dimmed his own headlight several times in an attempt to attract the attention of the motorman of No. 432, but the headlight of that train was not dimmed. During this time the motorman of No. 433 passed signal 371 without seeing the aspect displayed by the signal nor the signals given by the conductor of Extra 456 North. He said that when his train was in the vicinity of the second crossing south of the point of accident he made a brake application preparatory to stopping at the station at Waukegan. He said that his train passed No. 432 in this vicinity, and after passing No. 432 he saw that signal 375 indicated Stop-then-proceed-at-restricted-speed. When he saw the signal he immediately made an emergency application of the brakes and opened the sander valve. He thought that the speed of the train had been reduced to about 20 miles per hour when the collision occurred. The master mechanic said that considering the extent of damage to the equipment he estimated that the speed of No. 433 was about 35 miles per hour at the time of the accident.

The motorman of No. 432 said that after he departed from the station at Waukegan he saw No. 433 approaching, but because of the rail-highway grade crossings in the vicinity he did not dim his headlight. Both the motorman and the conductor of this train thought that their train passed No. 433 in the vicinity of the first crossing south of the point of accident.

After the accident occurred signals 371 and 375 were found to be displaying the proper aspects. After the damaged equipment was removed the signal apparatus was inspected and was found to function properly.

The brake equipment of the first unit of No. 433 was damaged in the accident to the extent that it could not be tested after the accident occurred. The brake equipment of the other two units was tested and was found to function properly.

The rules and special instructions of this carrier provide that within yard limits the main track may be used, protecting against first class trains. When a train stops under circumstances in which it may be overtaken by another train the flagman must go back immediately with flagman's signals, and at night place a burning red fusee in center of track 500 feet in rear of train and then go back at least 2,500 feet farther. In the instant case the stop signals given by the conductor of Extra 456 North were given from a point about 610 feet south of the rear end of his train. The rules also provide that when a train passes an automatic signal displaying a yellow aspect the speed must be reduced to not exceeding 30 miles per hour and the train must be prepared to stop at the next signal. A train must stop before passing an automatic signal displaying a red aspect, and must then proceed at restricted speed. The motorman of No. 433 did not see the aspect displayed by signal 371, and when he saw the aspect displayed by signal 375 there was insufficient distance in which to stop short of the signal.

This accident was caused by failure to provide adequate protection for the preceding train and failure to operate the following train in accordance with signal indications.

Dated at Washington, D. C., this twenty-eighth day of September, 1956.

By the Commission, Commissioner Clarke.

(SEAL)

HAROLD D. McCOY,

Secretary.